

ABSTRACT OF THE DISCLOSURE

A semiconductor device is fabricated by injecting fluorine into a region of a semiconductor substrate other than a region of the semiconductor substrate where a thinnest gate insulating film is to be formed, among a plurality of regions
5 where gate insulating films are to be formed. Then, the semiconductor substrate with fluorine injected therein is oxidized to form an oxide film in the plurality of regions. A surface of the oxide film is nitrided to turn a surface layer
10 thereof into an oxynitride film or form a nitride film on the surface of the oxide film. The semiconductor device has a plurality of gate insulating films of different thicknesses which contain nitrogen in their surface layers.

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